Application No. 10/811,636
Atty. Docket No.: 22956-692 (MIT222USCNT2)
Inventors: McDevitt et al.
Examiner: Lynnsy M. Schneider

Reply to final Office Action of March 2, 2010

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) Apparatus for attaching tissue to bone comprising:

an expandable body defining a bore and configured to expand into bone, said expandable body comprising a distal tip member and a proximal main member, said distal tip member being of harder material than said proximal main member, said distal tip member having a threaded recess in a proximal surface thereof and said proximal main member having a distally extending threaded projection threadedly interengageable with the distal tip member recess; and

an expander pin comprising a shaft sized to be received in the bore of said expandable body and to expand said expandable body laterally when said expander pin is driven into said expandable body while said proximal main member and distal tip member are threadedly engaged; and

an insertion shaft slidingly disposed in said bore of said expandable body and in a bore of said expander pin, the insertion shaft being releasably secured to the expandable body;

wherein, when said expander pin is driven into said expandable body, said expandable body is configured to attach to the bone.

- 2. (Previously Presented) Apparatus according to claim 1 wherein said expander pin includes a fastener stabilization apparatus for stabilizing said expander pin relative to said expandable body.
- 3. (Original) Apparatus according to claim 2 wherein said fastener stabilization apparatus comprises threads.
- 4. (Original) Apparatus according to claim 2 wherein said fastener stabilization apparatus comprises ribs.
- 5. (Previously Presented) Apparatus according to claim 1 wherein said apparatus further comprises a tissue attachment member having at least one laterally-extending projection for tacking tissue, whereby when said expander pin is driven into said expandable body, said tissue attachment member is configured to secure the tissue to said apparatus.
- 6. (Original) Apparatus according to claim 5 wherein said at least one laterally-extending projection has as substantially linear outer edge.

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7. (Original) Apparatus according to claim 5 wherein said at least one laterally-extending

projection has a substantially arc-like outer edge.

8. (Previously Presented) Apparatus according to claim 1 wherein said apparatus further comprises

a tissue attachment member having a bore formed in said expander pin and a suture extending through

said expander pin bore, whereby when said expander pin is driven into said expandable body, said tissue

attachment member is configured to secure the tissue to said apparatus.

9. (Previously Presented) Apparatus according to claim 8 wherein said tissue attachment member is

configured so that said suture may slide relative to said expander pin when said expander pin is received

in said expandable body.

10. (Previously Presented) Apparatus according to claim 8 wherein said tissue attachment member

further comprises a second bore formed in said expander pin and second suture extending through said

second expander pin bore.

11. (Original) Apparatus according to claim 1 wherein said expander pin has indicia for indicating

depth.

12. (Previously Presented) Apparatus according to claim 1 wherein said expandable body distal tip

member is tapered.

13. (Previously Presented) Apparatus according to claim 1 wherein said expandable body includes a

bone securement apparatus for securing said expandable body relative to bone.

14. (Original) Apparatus according to claim 13 wherein said bone securement apparatus comprises

ribs.

15. (Original) Apparatus according to claim 13 wherein said bone securement apparatus comprises

threads.

16. (Canceled)

17. (Canceled)

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- 18. (Currently Amended) Apparatus according to claim <u>16-1</u> wherein said <u>insertion</u> shaft and said expandable body are threadingly interengageable with one another.
- 19. (Currently Amended) Apparatus according to claim <u>16-1</u> wherein said <u>insertion</u> shaft has a tapered distal end.
- 20. (Currently Amended) Apparatus according to claim <u>16-1</u> wherein said <u>insertion</u> shaft extends distally beyond said expandable body when said shaft is slidingly received in said bore of said expandable body.
- 21. (Currently Amended) Apparatus according to claim <u>16-1</u> wherein said apparatus further comprises a pusher member configured to drive said expander pin into said expandable body.
- 22. (Currently Amended) Apparatus according to claim 21 wherein said pusher member slides along said <u>insertion</u> shaft when driving said expander pin into said expandable body.
- 23. (Original) Apparatus according to claim 1 wherein said apparatus further comprises a cannulated driver assembly adapted to drive said expander pin into said expandable body.
- 24. (Currently Amended) Apparatus according to claim 23 wherein said cannulated driver assembly slides along a <u>second</u> shaft connected to said expandable body.
- 25. (Original) Apparatus according to claim 23 wherein said cannulated driver assembly includes a trigger for inducing the driving of said expander pin.
- 26. (Original) Apparatus according to claim 23 wherein said cannulated driver assembly comprises a slap hammer.
- 27. (Canceled)
- 28. (Canceled)
- 29. (Currently Amended) Apparatus for attaching tissue to bone comprising:
 an expandable body configured to expand into bone, said expandable body defining a bore and

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comprising a distal tip member and a proximal main member being separable from one another;

an expander pin comprising a shaft sized to be received in the bore of said expandable body and to expand said expandable body laterally when said expander pin is driven into said expandable body; and

an installation tool comprising a shaft slidingly received in said bore of said expandable body and in a bore of said expander pin and configured to be releasably secured to said expandable body, the shaft having a distal end and a proximal end, said distal end extending distally beyond a distal end of the distal tip member of the expandable body;

whereby when said expander pin is driven distally into said expandable body, said expandable body is configured to attach to the bone.

- 30. (Previously Presented) Apparatus according to claim 29 wherein said expander pin includes a fastener stabilization apparatus for stabilizing said expander pin relative to said expandable body.
- 31. (Original) Apparatus according to claim 30 wherein said fastener stabilization apparatus comprises threads.
- 32. (Original) Apparatus according to claim 30 wherein said fastener stabilization apparatus comprises ribs.
- 33. (Previously Presented) Apparatus according to claim 29 wherein said apparatus further comprises a tissue attachment member having at least one laterally-extending projection for tacking tissue, whereby when said expander pin is driven into said expandable body, said tissue attachment member is configured to secure the tissue to said apparatus.
- 34. (Original) Apparatus according to claim 33 wherein said at least one laterally-extending projection has a substantially linear outer edge.
- 35. (Original) Apparatus according to claim 33 wherein said at least one laterally-extending projection has a substantially arc-like outer edge.
- 36. (Previously Presented) Apparatus according to claim 29 wherein said apparatus further comprises a tissue attachment member having a bore formed in said expander pin and a suture extending

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through said bore formed in said expander pin, whereby when said expander pin is driven into said expandable body, said tissue attachment member is configured to secure the tissue to said apparatus.

37. (Previously Presented) Apparatus according to claim 36 wherein said tissue attachment member is configured so that said suture is slidable relative to said expander pin when said expander pin is received in said expandable body.

- 38. (Previously Presented) Apparatus according to claim 36 wherein said tissue attachment member further comprises a second bore formed in said expander pin and a second suture extending through said second expander pin bore.
- 39. (Original) Apparatus according to claim 29 wherein said expander pin has indicia for indicating depth.
- 40. (Original) Apparatus according to claim 29 wherein said expandable body is provided with a tapered distal end.
- 41. (Canceled)
- 42. (Previously Presented) Apparatus according to claim 29 wherein said distal tip member and said proximal main member are threadedly interengageable with one another.
- 43. (Previously Presented) Apparatus according to claim 29 wherein said distal tip member and said proximal main member are frictionally interengageable with one another.
- 44. (Previously Presented) Apparatus according to claim 29 wherein said distal tip member is constructed from a first material and said proximal main member is constructed from a second material, and wherein said first material is harder than said second material.
- 45. (Previously Presented) Apparatus according to claim 29 wherein said expandable body distal tip member is tapered.
- 46. (Previously Presented) Apparatus according to claim 29 wherein said expandable body includes a bone securement apparatus for securing said expandable body relative to bone.

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47. (Original) Apparatus according to claim 46 wherein said bone securement apparatus comprises ribs.

- 48. (Original) Apparatus according to claim 46 wherein said bone securement apparatus comprises threads.
- 49. (Canceled)
- 50. (Canceled)
- 51. (Currently Amended) Apparatus according to claim 29 wherein said shaft of said installation tool and said expandable body are threadedly interengageable with one another.
- 52. (Currently Amended) Apparatus according to claim 29 wherein said distal end of said shaft of said installation tool is tapered.
- 53. (Canceled)
- 54. (Previously Presented) Apparatus according to claim 29 wherein said apparatus further comprises a pusher member configured to drive said expander pin into said expandable body.
- 55. (Currently Amended) Apparatus according to claim 54 wherein said pusher member slides along said shaft of said installation tool when driving said expander pin into said expandable body.
- 56. (Canceled)
- 57. (Canceled)
- 58. (Currently Amended) Apparatus according to claim 56 wherein said-cannulated driver assembly installation tool includes a trigger for inducing the driving of said expander pin.
- 59. (Currently Amended) Apparatus according to claim 56 wherein said-cannulated driver assembly installation tool comprises a slap hammer.

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60. (Original) Apparatus according to claim 5 wherein said at least one laterally-extending projection has a substantially convex configuration.

- 61. (Original) Apparatus according to claim 5 wherein said at least one laterally-extending projection has a substantially planar configuration.
- 62. (Original) Apparatus according to claim 5 wherein said at least one laterally-extending projection has a substantially concave configuration.
- 63. (Previously Presented) Apparatus according to claim 5 wherein said tissue attachment member further comprises at least one longitudinally-extending projection projecting distally out of said at least one laterally-extending projection.